IN THE CLAIMS

Please cancel claims 3-5, without prejudice or disclaimer.

Please amend claims 1-2 and 6-11, and add new claims 12-19, as follows:

1. (currently amended) A core drilling machine with an electrical motor (2) for rotational drive of a core drilling bit (3) having cutting edges oriented axial to a work piece (4), a feeding means (6) for generation of the feed of the core drill bit (3) against the work piece (4) and a controller (7) for controlling, relative to a first one-to-one control parameter, detected by a sensor (8, 8') for one of electrical power consumption (P) and torque (M), wherein a force sensor (9, 9') is connected to the controller (7) for detecting ~~the~~ a contact pressing force (F_N) of the core drill bit (3) as the second control parameter;

wherein the force sensor (9') is a power sensor of the feeding means (6);

wherein the controller (7) is a microcontroller; and

wherein the controller (7) is connected to an input means (14) for the radius (r) of the drill bit (3), with a transponder that queries an identification means (15) on the core drill bit (3).

2. (currently amended) The core drilling machine of claim 1, wherein the force sensor (9) is a piezo force sensor arranged in [[an]] a thrust bearing zone (10) of a drive spindle (11).

Claims 3-5 (canceled).

6. (currently amended) The core ~~drill~~ drilling machine of claim [[5]] 1, wherein one of respectively different torques M_I and speeds n_I are tabularly arranged in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_I) in the controller (7).

7. (currently amended) The core drilling machine of claim 1, wherein the electrical motor (2) is connected to a motor controller (12) controllably connected to the controller (7) that can electrically switch different working points (A_i) of the electrical motor that lies on ~~the~~ a motor characteristic curve of ~~maximal~~ maximum power (P_{max}) as tabularly assigned torque/speed-pairings in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_i) that are assigned to the different torques M_i and speeds n_i in the controller (7).

8. (currently amended) The core ~~drill~~ drilling machine of claim 1, wherein respectively different torques/speed-pairings ($[M_i/n_i]$) are tabularly arranged in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_I) in the controller (7) that are assigned to the different torques M_i and speeds n_i in the controller (7).

9. (currently amended) The core drilling machine of claim 7, wherein the controller (7) connected [[in]] to the feeding means (6) by a bi-directional optical interface (16) is connected to the motor controller (12).

10. (currently amended) A process for controlling a core drilling machine (1) having an electrical motor (2) for rotational drive of a core drill bit (3), with a force sensor (9') being a power sensor of a feeding means (6), with a controller (7) being a microcontroller connected to an input means (14) for a radius (r) of the core drill bit (3), with a transponder that queries an identification means (15) on the core drill bit (3), wherein, in a first step, a first control parameter that is dependent on the electrical motor (2) is detected [[to]] by a sensor (8, 8'); in a second step,

the first control parameter is evaluated by [[a]] the controller (7), and in a third step, a feeding means (6) for the core drill bit (3) is controlled by the controller (7), wherein in the first step, a second control parameter that is dependent on ~~the~~ a contact pressing force (F_N) is detected using [[a]] the force sensor (9, 9'), in the second step, a one-to-one control parameter relative to ~~the~~ a first substrate-specific frictional coefficient (μ) in the controller (7) is determined from the first and the second control parameter and in the third step, the one-to-one control parameter is used for controlling the feeding means (6).

11. (currently amended) The process according of claim 10, wherein, in the third step, a motor control (12) of the electrical motor (2) is controlled using the first control parameter relative to at least two different working points (A_i) that lie on the motor characteristic curve of maximum power (P_{max}) as tabularly assigned torque/speed-pairings in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_i) that are assigned to the different torques M_i and speeds n_i in the controller (7).

12. (new) A core drilling machine with an electrical motor (2) for rotational drive of a core drilling bit (3) having cutting edges oriented axial to a work piece (4), a feeding means (6) for generation of the feed of the core drill bit (3) against the work piece (4) and a controller (7) for controlling, relative to a first one-to-one control parameter, detected by a sensor (8, 8') for one of electrical power consumption (P) and torque (M), wherein a force sensor (9, 9') is connected to the controller (7) for detecting a contact pressing force (F_N) of the core drill bit (3) as the second control parameter;

wherein the electrical motor (2) is connected to a motor controller (12) controllably connected to the controller (7) that can electrically switch different working points (A_i) of the electrical motor that lies on a motor characteristic curve of maximum power (P_{max}) as tabularly assigned torque/speed-pairings in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_i) that are assigned to the different torques M_i and speeds n_i in the controller (7).

13. (new) The core drilling machine of claim 12, wherein the force sensor (9) is a piezo force sensor arranged in a thrust bearing zone (10) of a drive spindle (11).

14. (new) The core drilling machine of claim 12, wherein one of respectively different torques M_I and speeds n_I are tabularly arranged in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_I) in the controller (7).

15. (new) The core drilling machine of claim 12, wherein the controller (7) connected in the feeding means (6) by a bi-directional optical interface (16) is connected to the motor controller (12).

16. (new) A core drilling machine with an electrical motor (2) for rotational drive of a core drilling bit (3) having cutting edges oriented axial to a work piece (4), a feeding means (6) for generation of the feed of the core drill bit (3) against the work piece (4) and a controller (7) for controlling, relative to a first one-to-one control parameter, detected by a sensor (8, 8') for one of electrical power consumption (P) and torque (M), wherein a force sensor (9, 9')

is connected to the controller (7) for detecting a contact pressing force (F_N) of the core drill bit (3) as the second control parameter;

wherein respectively different torques/speed-pairings ($[M_i/n_i]$) are tabularly arranged in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_I) that are assigned to the different torques M_i and speeds n_i in the controller (7).

17. (new) The core drilling machine of claim 16, wherein the force sensor (9) is a piezo force sensor arranged in a thrust bearing zone (10) of a drive spindle (11).

18. (new) The core drilling machine of claim 16, wherein one of respectively different torques M_I and speeds n_I are tabularly arranged in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_I) in the controller (7).

19. (new) A process for controlling a core drilling machine (1) having an electrical motor (2) for rotational drive of a core drill bit (3), wherein, in a first step, a first control parameter that is dependent on the electrical motor (2) is detected by a sensor (8, 8'); in a second step, the control parameter is evaluated by a controller (7), and in a third step, a feeding means (6) for the core drill bit (3) is controlled by controller (7), wherein in the first step, a second control parameter that is dependent on a contact pressing force (F_N) is detected using a force sensor (9, 9'), in the second step, a one-to-one control parameter relative to a first substrate-specific frictional coefficient (μ) in the controller (7) is determined from the first and the second control parameter and in the third step, the one-to-one control parameter is used for controlling the feeding means (6);

wherein, in the third step, a motor control (12) of the electrical motor (2) is controlled using the control parameter relative to at least two different working points (A_i) that lie on a motor characteristic curve of maximum power (P_{max}) as tabularly assigned torque/speed-pairings in the controller (7) relative to at least two different substrate-specific frictional coefficients (μ_l) in the controller (7) that are assigned the different torques M_i and speeds n_i in the controller (7).